

Amendments to the Specification

Please amend the specification as follows.

Please replace paragraphs [000127], [00182], [00189], [00206], and [00226] with the following:

[00127] DCF unit 905 is responsible for handling DCF functionality according to 802.11 specifications. DCF unit 905 typically operates based on the CSMA/CA (carrier sense multiple access with collision avoidance) protocol. In a conventional approach, typical 802.11 stations contend for access and attempt to send frames when there is no other station transmitting. If another station is sending a frame, the stations wait until the channel is free. According to one embodiment, when DCF unit 905 detects ~~[[if]]~~ that interference exists between multiple mobile stations, DCF unit 905 may signal session management unit 901 to queue up the frames and reschedule ~~[[to]]~~ the processing of these frames to avoid interference. As a result, mobile stations do not need to worry about interference and wait for a free channel, which leads to a wider bandwidth of the network.

[00182] Figure 19 is a data flow diagram of one embodiment of an association and token assignment process. Referring to Figure 19, an association request is generated by a mobile station and sent by the mobile station, via the mobile station MAC. Repeater 2 has the token for the mobile station. Therefore, repeater 2 encapsulates the association request, along with ~~[[is]]~~ the RSSI and BSSID, into an Ethernet packet and sends the encapsulated packet to the switch.

[00189] A user can configure the switch to have any number of MAC instances. In one embodiment, this is configured using a parameter. Also configurable is which repeater belongs to which MAC instance. For example, if the switch has 64 ports, it can be configured to act as 8 access points (8 upper MAC instances running concurrently), with 8 repeaters per access point (one upper MAC sublayer controlling 8 repeaters).

[00206] According to one embodiment, communications between switch 2351 and repeaters 2352 and 2353 are carried out via a tunneling protocol, also referred to as ATP which is encapsulated within an Ethernet packet (e.g., an Ethernet 802.3 packet or a wireless packet, such as, for example, an IEEE 802.16 packet). For example, communications between switch 2351 and repeater 2352 are performed via a logical tunnel 2359 within the Ethernet communication protocol. When switch 2351 needs to transmit a packet (e.g., a data or control packet) to a repeater, such as repeater 2352 or a mobile station, such as mobile station 2354, switch 2351 converts the packet into a tunneling protocol packet, also referred to as an ATP packet 2361, conforming to a tunneling protocol, such as ATP protocol. Switch 2351 then encapsulates the ATP packet 2361 within an Ethernet packet 2360 and transmits the Ethernet packet 2360 to repeater 2352. If the destination of ATP packet 2361 is repeater 2352, repeater 2352 extracts ATP packet 2361 from Ethernet packet 2360 and performs operations according to the extracted ATP packet 2361.

[00226] Once switch 2701 receives the initial broadcast message from repeater 2702, switch 2701 responds to the message by downloading ULAN configuration information to repeater 2702 (operation 2704), which may be used by repeater 2702 for further communications in the network. In one embodiment, the response from switch 2701 is carried by a set data message (e.g., set data value message having an ID of 0x06 shown in Figure 25A) for a repeater. An exemplary set data message for a repeater is shown in Figure 36A. However, the format of the message is not limited to the one shown in the figure. It will be appreciated that other formats may be utilized. The frame payload of the set data message may include data tuples that contains the VLAN configuration information (e.g., message having an ID of 0x 1F shown in Figure 26A). An exemplary embodiment of VLAN configuration information is shown in Figure 37. Exemplary VLAN configuration 3700 includes a VLAN ID for each type of transactions 3701-3706. It will be appreciated that other types of transactions may be included.